

In The Claims

- 1 (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)

8. (Currently Amended) A method of manufacturing a piezoelectric actuator, which generates pressure in each pressure chamber of a pressure chamber forming unit on which pressure chambers formed of multiple concave parts are provided on one surface, comprising:

a first process comprising:

forming a first sheet formed of pliant piezoelectric materials and a second sheet formed of pliant ~~piezoelectric~~ materials,

forming an upper electrode layer formed of conduction materials on one surface of said first sheet, and forming a lower electrode layer formed of conduction materials on the other surface of said first sheet or one surface of said second sheet,

wherein an electrode layer for polarization formed of conduction material is formed on the other surface side of said second sheet;

a second process comprising piling and densifying said first and second sheets having said lower electrode layer between;

a third process comprising polarizing said first sheet in a direction of a thickness of the first sheet; and

a fourth process comprising patterning said upper electrode layer in order to form multiple electrodes corresponding respectively to each said pressure chamber of said pressure chamber forming unit, wherein the upper electrode layer and electrode layer for polarization are located external to any other layers of the actuator, such that by placing a voltage across a face surface of said upper electrode layer and a face surface of said electrode layer for polarization, said first sheet is polarized in the direction of a thickness of the first sheet, whereby warping of the actuator during polarization is reduced.

9. (Previously Presented) A method of manufacturing a piezoelectric actuator as defined in Claim 8, characterized by:

in the second process,

a pliant third sheet having openings with a predetermined size and shape is piled on one surface side of said first sheet or the other surface side of the second sheet, and said third sheet is densified together with said first and the second sheets.

10. (Previously Presented) A method of manufacturing a piezoelectric actuator as defined in Claim 8, characterized by:

in said fourth process,

one surface side of said first sheet is patterned together with said upper electrode layer so that the first sheet will be separated corresponding respectively to each said pressure chamber of said pressure chamber forming unit.

11. (Cancelled)

12. (Currently Amended) A method of manufacturing a piezoelectric actuator as defined in Claim 8, characterized by:

in said first process,

ceramic materials are used as said material of the second sheet, ~~instead of piezoelectric materials.~~

13. (Previously Presented) A method of manufacturing a piezoelectric actuator as defined in Claim 8, characterized by:

in said first process,

said lower electrode layer is formed thicker than said upper electrode layer; and

the other surface side of said lower electrode layer is a vibrator that generates pressure for ejecting ink in said pressure chamber.

14. (Cancelled)

15. (Currently Amended) A method of manufacturing a piezoelectric actuator, the method comprising:

forming a first sheet from piezoelectric material;

forming a second sheet from pliant materials;

forming an upper electrode layer from conduction material on one surface of the first sheet;

forming a lower electrode layer from conduction material on an opposite surface of the first sheet or one surface of the second sheet;

forming an electrode layer for polarization from conduction material on another surface side of the second sheet;

piling and densifying the first and second sheets having the lower electrode layer there between;

polarizing the first sheet in a direction of a thickness of the first sheet by placing a voltage across a face surface of the upper electrode layer and a face surface of the electrode layer for polarization, wherein the upper electrode layer and electrode layer for polarization are located external to any other layers of the actuator, thereby reducing warping of the actuator during polarization; and

patterning the upper electrode layer in order to form multiple electrodes.